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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,209	08/07/2001	Sarath D. Gunapala	06618-379002	1843

7590

05/31/2002

SCOTT C. HARRIS
Fish & Richardson P.C.
Suite 500
4350 La Jolla Village Drive
San Diego, CA 92122

EXAMINER

BAUMEISTER, BRADLEY W

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 05/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/924,209

Applicant(s)
Gunapala et al.

Examiner
B. William Baumeister

Art Unit
2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 12, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Aug 7, 2001 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Drawings

1. The drawings are objected to because of the following informalities/clerical errors.

Correction to these and any other errors not specifically mentioned is required.

a. FIG 1 sets forth "GaAs/Algatts Mqw Layers." "GaAs/AlGaAs MQW Layers" is presumed to be intended.

b. FIG 1 sets forth "Jucidout Radiation" and "Slotted Fluid." These terms are not in the specification and would not be understood by one of ordinary skill in the art.

c. FIG. 1 depicts layer 112--described in the specification as indicating the heavily doped contact layer--being formed on substrate 101, and having each column's layer 112 being fully isolated from the other stacks by the air gap which extends into substrate 101. However, FIG 1 also recites "Heavily Doped GaAs Contact Layers" with arrows pointing to top contact 116 and to substrate 101. It is unclear whether each bottom contact 112 is fully isolated and the transparent substrate is therefore also electrically conducting, or alternatively if each column's bottom contact is not electrically isolated from the others.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Choi '015. Choi discloses a periodic array of multicolor quantum well stacks formed on a transparent substrate. The isolated stacks include heavily doped-top contact 221 and bottom contact 222.

a. Applicant argues that Choi does not anticipate the claims because each individual stack S (see e.g., FIG 5 depicting six stacks S) is not spatially separated from one another because they are interconnected at the periphery (see FIG 6). Resolution of this issue, in turn, depends on whether the claims' transition word "comprising" permits the claims to read on a plurality of laterally separated stacks S which further include lateral interconnecting stacks, or alternatively whether "separated" requires that each stack be fully separated on all four sides. However, this issue need not be resolved. This is because a plurality of stacks S and their associated interconnecting end regions, in combination, form a single slotted columnar quantum well structure unit. See FIG 6 depicting four adjacent such columnar structure units disposed on a common substrate which are fully separated from each other, as depicted by the exposure of lower contact 222. Further, FIG. 9 depicts that the Au reflector (metallic element) 300 is formed only on the columnar unit, and is therefore separated from the adjacent units as required by claims 3 and 8.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,271,537. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are broader than or generic to all of the claims of the '537 patent. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the invention as presently claimed since it has been held that omission of elements and their respective functions in a combination where the remaining elements perform the same function as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

Response to Arguments

6. Applicant's arguments filed 3/12/2002 have been fully considered but they are not persuasive for the reasons set forth above.

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Conclusion

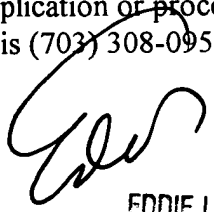
7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, **B. William Baumeister**, at **(703) 306-9165**. The examiner can normally be reached Monday through Friday, 8:30 a.m. to 5:00 p.m. If the Examiner is not available, the Examiner's supervisor, Mr. Eddie Lee, can be reached at (703) 308-1690. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

B. William Baumeister
Patent Examiner, Art Unit 2815
May 28, 2002



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800